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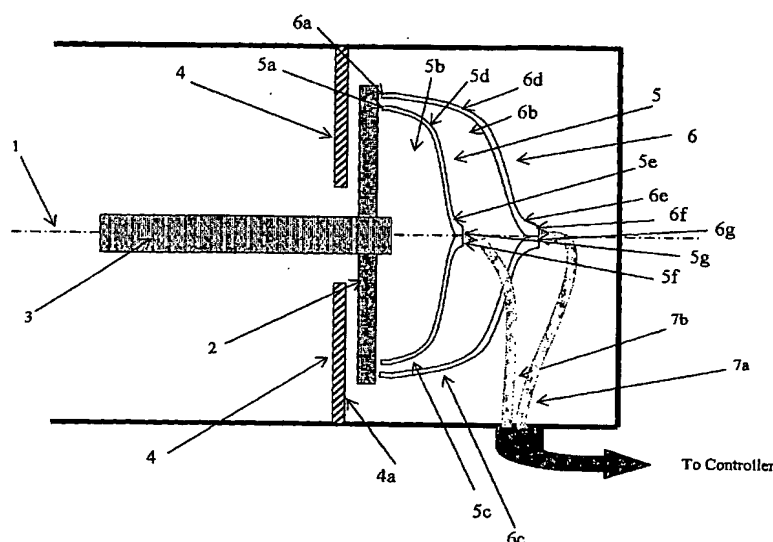
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(54) Title: OPTICAL ENCODER



(57) Abstract: An optical encoder assembly and a method for measuring a rotation angle in which optical beams are spread over the circumference of a rotating optical disk by means of optical guides (OG). In the preferred embodiment the rotating optical disk has a pair of concentrically arranged circular patterns with alternating transparent and opaque sections. Each beam is input via optical fibers to one of a pair of concentrically disposed OGs with a cylindrical shape (COGs) respectively and propagated through the optical disk to be reflected by a mirror with two concentrically disposed circular patterns of reflective and non reflective sections, reentering the COG through the optical disk in a reverse direction. The COGs then guide the light beams back to an electronic interface that converts the optical signals into electronic signals producing position information. Considerably elevated precision can be obtained due to the averaging of the light intensity going through the disk on a substantially large part of the optical disk.